U.S.*DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE FORM PTO-1390 (Modified) REV 11-98) 1414.501U2 TRANSMITTAL LETTER TO THE UNITED STATES U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR DESIGNATED/ELECTED OFFICE (DO/EO/US) T/B/A > CONCERNING A FILING UNDER 35 U.S.C. 371 PRIORITY DATE CLAIMED INTERNATIONAL APPLICATION NO. INTERNATIONAL FILING DATE PCT/US99/16242 16 July 1999 17 July 1998 TITLE OF INVENTION METHODS FOR DETECTING AND MAPPING GENES, MUTATIONS AND VARIANT POLYNUCLEOTIDE SEQUENCES MAIN DATE CANCELLED APPLICANT(S) FOR DO/EO/US JAN 1 6 2000 SHAFER, David A. Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371. This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1). A proper Demand-for-International-Preliminary-Examination was made by the 19th month from the earliest claimed priority date. A copy of the International Application as filed (35 U.S.C. 371 (c) (2)) 5. is transmitted herewith (required only if not transmitted by the International Bureau). has been transmitted by the International Bureau. is not required, as the application was filed in the United States Receiving Office (RO/US). A translation of the International Application into English (35 U.S.C. 371(c)(2)). A copy of the International Search Report (PCT/ISA/210). Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3)) are transmitted herewith (required only if not transmitted by the International Bureau). have been transmitted by the International Bureau. have not been made; however, the time limit for making such amendments has NOT expired. have not been made and will not be made. A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). \boxtimes An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)). 11. A copy of the International Preliminary Examination Report (PCT/IPEA/409). A translation of the annexes to the International Preliminary Examination-Report under PCT Article 36 12 (35 U.S.C. 371 (c)(5)). Items 13 to 20 below concern document(s) or information included: 13. An Information Disclosure Statement under 37 CFR 1.97 and 1.98. \boxtimes An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 14. 15. A FIRST preliminary amendment. 16. A SECOND or SUBSEQUENT preliminary amendment. 17. A substitute specification. \boxtimes A change of power of attorney and/or address letter. 18. \boxtimes Certificate of Mailing by Express Mail 19. 20. \boxtimes Other items or information: Check for \$80.00 for recording of Assignments

Verified Statement Claiming Small Entity Status (37 CFR 1.9(f) & 1.27(c))

Statement Under 37 C.F.R. 3.73(b) with copies of Assignments

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JC02 Rec'd PCT/PTO U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR INTERNATIONAL APPLICATION NO. ATTORNEY'S DOCKET NUMBER PCT/US99/16242 1414.501U2 21. CALCULATIONS PTO USE ONLY The following fees are submitted:. BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) : Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1,000.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but Internation Search Report prepared by the EPO or JPO \$860.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$710.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$690.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4)..... \$100.00 ENTER APPROPRIATE BASIC FEE AMOUNT = \$690.00 Surcharge of \$130.00 for furnishing the oath or declaration later than \$0.00 months from the earliest claimed priority date (37 CFR 1.492 (e)). **CLAIMS** NUMBER FILED NUMBER EXTRA RATE \$18.00 \$666.00 37 Total claims 57 -20 =6 \$80.00 \$480.00 9 . 3 = x Independent claims \$0.00 Multiple Dependent Claims (check if applicable) TOTAL OF ABOVE CALCULATIONS \$1,836.00 Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) (check if applicable). 図 \$918.00 **SUBTOTAL** \$918.00 □ 20 □ 30 Processing fee of \$130.00 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492 (f)). \$0.00 \$918.00 TOTAL NATIONAL FEE Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable). \$0.00 \$918.00 TOTAL FEES ENCLOSED Amount to be: refunded \$ charged A check in the amount of \$918.00 to cover the above fees is enclosed. to cover the above fees. Please charge my Deposit Account No. in the amount of A duplicate copy of this sheet is enclosed. The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment A duplicate copy of this sheet is enclosed. to Deposit Account No. 501496 NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to reviv 1.137(a) or (b)) must be filed and granted to restore the application to pending status SEND ALL CORRESPONDENCE TO: Dr. David S. Kerven, Esq. Red Hot Law Group of Ashley LLC The Biltmore, Suite 400 Dr. David S. Kerven, Esq. 817 W. Peachtree St., NW NAME Atlanta, GA 30308-1144 (404) 575-1900, ext. 1980 43,712 (404) 575-1901, fax REGISTRATION NUMBER dkerven@redhotlaw.com PATENT TRADEMARK OFFICE January 16, 2001 DATE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF MAILING UNDER 37 CFR 1.10

In Re Application of:

SHAFER, David A.

Application Serial No.:

T/B/A

Filing Date:

Herewith

Type of Patent:

Utility

Title:

METHODS FOR DETECTING AND MAPPING GENES,

MUTATIONS AND VARIANT POLYNUCLEOTIDE

SEQUENCES

Docket Ref:

1414.501U2

Date of Express Mail:

January 16, 2001

Express Mail No.

EL697765310US

ENCLOSURES

- 1. Certificate of Express Mailing
- 2. Patent Transmittal Letter to U.S. Receiving Office Under 35 U.S.C. 371, 2 pgs.
- 3. Copy of Amendments to the Claims, 13 pgs.
- 4. Declaration for Patent Application, 3 pgs.
- 5. Recordation Form Cover Sheet, 1 pg.
- 6. Assignment of Rights, Title and Interest in Invention, 3 pgs.

7. Power of Attorney, 1 pg.

- 8. Verified Statement Claiming Small Entity Status, 2 pgs.
- 9. Statement Under 37 CFR 3.73(b), 1 pg. (with copies of Assignments, 8 pgs.)
- 10. 2 Checks in the amounts of \$918.00 and \$80.00

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I HEREBY CERTIFY THAT THE ENCLOSURES AND FEE ARE BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE "EXPRESS MAIL POST OFFICE TO ADDRESSEE" SERVICE UNDER 37 CFR 1.10 ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO BOX PATENT APPLICATION, ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231.

Ray Jackson

(Name typed or printed)

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